IN THE CLAIMS

Please amend the claims to the following.

1. (Currently Amended) An apparatus comprising:

    a general input/output communication port to implement a communication stack

        including a physical layer, a data link layer and a transaction layer, the transaction

        layer to assemble a packet header for a transaction packet, the packet header to

        include:

        a format field to indicate whether the transaction packet includes a data payload

            and to specify a size of the packet header; and

        a type field to specify a transaction type, the transaction type to be selected from

            ~~the following~~ a group <u>consisting</u> of: a memory request, an input/output

            request, a configuration request and a message request,

        wherein the format field and the type field together indicate a <u>transaction layer</u>

            <u>packet format associated with a packet type.</u> ~~packet type.~~

2-4. (Canceled).

5. (Previously Amended) The apparatus of claim 1, wherein the format field and the type field

are located in the first byte of the packet header, and wherein the packet type is selected from

a group consisting of a memory read request, a memory write request, an input/output (IO)

read request, an IO write request, a configuration read, a configuration write, a message

request, a message request with data, a message for advanced switching, a completion without

1   data, a completion with data, and a completion for lock memory read .

1   6. (Currently Amended) An apparatus comprising:

2   a general input/output communication port to implement a communication stack

3   including a physical layer, a data link layer and a transaction layer, the transaction

4   layer to disassemble a packet header for a packet to be received at the general

5   input/output communication port, the packet header to include:

6   a format field to specify whether the packet includes a data payload and to specify

7   a size of the packet header; and

8   a type field to specify a <u>message</u> transaction type <u>in response to holding a</u>

9   <u>message value and to specify a non-message request transaction type in</u>

10   <u>response to holding a request value,</u> ~~the transaction type to include at least~~

11   ~~one selected from the following group of: a memory request, an~~

12   ~~input/output request, a configuration request and a message request,~~

13   an additional field to <u>hold message code information in response to the type field</u>

14   <u>holding the message value and to hold byte enable information in response</u>

15   <u>to the type field holding the request value.</u> ~~hold additional information,~~

16   ~~wherein the format field and the type field together specify the type of~~

17   ~~additional information to be held in the additional field.~~

1   7-9. (Canceled).

1   10. (Currently Amended) The apparatus of claim 6, wherein <u>the type field is further to specify a</u>

2   <u>completion transaction type in response to holding a completion value, and wherein the</u>

3   <u>additional field is to hold completion status information in response to the type field holding the</u>

4   <u>completion value.</u> ~~the additional field is to hold byte enable information in response to the format~~

5   ~~field and the type field including a first value, the additional field includes completion status~~

6   ~~information in response to the format field and the type field including a second value, and the~~

7   ~~additional field includes message code information in response to the format field and the type~~

8   ~~field including a third value~~.

1   11. (Currently Amended) A system comprising:

2   a transmitting device to include a general input/output communication port to implement

3   a communication stack including a physical layer, a data link layer and a transaction layer, the

4   transaction layer to assemble a packet header for a transaction packet , the packet header <u>to</u>

5   include[[ing]]:

6   a format field to <u>indicate</u> ~~specify~~ whether the transaction packet includes a data

7   payload ~~and to specify a size of the packet header~~;

8   a type field to <u>indicate</u> ~~specify~~ a transaction type, the transaction type to include at

9   least one selected from the following group of: a memory request, an input/output

10 request, a configuration request and a message request, wherein the format field and the

11 type field together specify the format for the packet header; ~~and~~

12   <u>a length field to indicate a length of the data payload in response to the format</u>

13 <u>field indicating the transaction packet includes the data payload,</u>

14   <u>an extension field to be disposed between the type field and the length field</u>

15 <u>capable of extending the type field or the length field in response to the transaction type,</u>

16 <u>and</u>

17   ~~an additional field to hold additional information~~; and

18   a receiving device to receive the packet header from the transmitting device the receiving

19 device to implement the communication stack that includes the data link layer, the physical layer

20 and the transaction layer, wherein the transaction layer is to disassemble the packet header~~, the~~

21 ~~transaction layer to determine a type of additional information in the additional field based on~~

22 ~~the format field and the type field together~~.

1   12-14. (Canceled).

1   15. (Currently Amended). The system of claim 11, wherein the packet header is further to

2   include an additional field to hold additional information, and wherein the transaction layer is to

3   determine a type of the additional information to be held in the additional field based on the

4   format and the type field together, the transaction layer to determine a type of the additional

5   information to be held in the additional field based on the format and the type field together

6   comprises:

7   determining the additional field includes is a byte enable field including to hold byte

8   enable information in response to the format field and type field together

9   indicating the transaction packet is a request packet,

10   determining the additional field includes is a completion status field to hold including

11   competition status information in response to the format field and type field

12   together indicating the transaction packet is a completion packet, and

13   determining the additional field includes is a message code field to hold including

14   message code information in response to the format field and type field together

15   indicating the transaction packet is a message packet,   .

1   16. (Previously Amended). The system of claim 15, wherein the format field and the type field

2   are located in the first byte of the packet header.

1   17-36. (Canceled).

1   37. (Previously Amended) The apparatus of claim 6, wherein the packet header is also to include

2   a length field to specify the length of the data payload in response to the format field specifying

3   the packet includes a data payload.

1   38. (Previously Amended) The apparatus of claim 37, wherein the transaction layer is to

2   compare the length of the data payload specified in the length field to an actual length of the

3   data payload and to treat the request transaction packet as malformed request transaction

4   packet based on the actual length not matching the length of the data payload specified in the

5   length field.

1   39. (Currently Amended) An apparatus comprising:

2   a general input/output communication port to implement a communication stack

3   including a physical layer, a data link layer and a transaction layer, the transaction

4   layer to assemble a packet header for a packet to be transmitted on a serial point-

5   to-point link, the packet header to include[[s]]:

6   a first field to indicate a size of the packet header and to indicate whether the

7   packet is to include a data payload;

8   a second field to indicate a transaction type of the packet; and

9   a third field to represent a length of the data payload, in response to the first field

10   indicating the packet is to include a data payload.

1   40. (Previously Added) The apparatus of claim 39, wherein the packer header is also to include a

2   fourth field to include a first type of information in response to the first and second field in

3   combination representing a first packet type and to include a second type of information in

4   response to the first and the second field in combination representing a second packet type.

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1   41. (Currently Amended) The apparatus of claim 40, wherein <u>the first type of information</u>

2   <u>includes byte enable information, the first packet type includes a non-message request packet</u>

3   <u>type, the second type of information includes message code information, and the second</u>

4   <u>packet type includes a message type.</u> ~~a fourth field to include a first type of information in~~

5   ~~response to the first and second field in combination representing a first packet type and to~~

6   ~~include a second type of information in response to the first and the second field in~~

7   ~~combination representing a second packet type. the first field is a format field, the second~~

8   ~~field, is a transaction type field, and the third field is a length field.~~

1   42. (Currently Amended) The apparatus of claim 40, wherein the fourth field, in response to the

2   first and the second field in combination representing a third packet type, is to include a third

3   type of information, and wherein ~~the first packet type is a request packet type, the first type of~~

4   ~~information includes byte enable information,~~ the ~~second~~ <u>third</u> packet type <u>includes</u> ~~is~~ a

5   completion packet type[[,]] <u>and</u> the <u>third</u> ~~second~~ type of information includes completion

6   status information~~, the third packet type is a message packet type, and the third type of~~

7   ~~information includes message code information~~.

1   43. (Previously Added) The apparatus of claim 42, wherein byte enable information includes

2   beginning of a data payload information and end of data payload information, the beginning

3   of a data payload information to indicate whether a first number of bytes at a beginning of the

4   data payload are enabled and the end of data payload information to indicate whether a second

5   number bytes at the end of the data payload are enabled.

1   44. (Previously Added) The apparatus of claim 40, wherein the packet header is also to include a

2   fifth extension field to be associated with the second field in response to the first and the

3   second field in combination representing the first packet type, and to be associated with the

4   third field in response to the first and the second field in combination representing the second

5   packet type.

1   45. (Previously Added) The apparatus of claim 44, wherein the first packet type is selected from

2   a group consisting of a locked memory read request, an I/O read request, and I/O write

3   request, a configuration read type 0, a configuration write type 0, a configuration read type 1,

4   a configuration write type 1, a completion without data, and a completion for locked memory

5   read, and wherein the second packet type is selected from a group consisting of a completion

6   with data, a memory read request, and a memory write request.

1   46. (Previously Added) The apparatus of claim 44, wherein the packet header is also to include

2   an additional field, wherein the additional field is selected from a group consisting of an

3   address field, a requester ID field, a tag field, an attribute field, a completer ID field, and a

4   virtual channel ID field.

1   47. (Previously Added) The apparatus of claim 39, wherein first field further indicates if the data

2   payload is four-byte naturally aligned and limited in size by a maximum data payload size, in

3   response to indicating the packet is to include a data payload.